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SUBJECT Appeal Brief (10/099,777)

Number of Pages 45

Date 6/14/2005

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Volel

Appl. No. 10/099,777
Appeal Brief dated 06/14/2005
Reply to Office Action of 03/08/2005

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of: :
Brown et al. :
Serial No: 10/099,777 : Before the Examiner:
 : Cam Linh T Nguyen
Filed: 03/14/2002 : Group Art Unit: 2171
 :
Title: APPARATUS AND METHOD : Confirmation No.: 4836
OF EXPORTING FILE SYSTEMS :
WITHOUT FIRST MOUNTING THE :
FILE SYSTEMS :

TRANSMITTAL OF APPELLANTS' BRIEF UNDER 37 C.F.R. 1.192(a)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attached is Appellant's Brief, in triplicate, from a decision of the Examiner dated 03/08/2005, finally rejecting the claims in the Application.

The item(s) marked below are appropriate:

1. _____ A petition and fee for extension of term for reply to the final rejection is attached.
2. X Appeal fee
 X other than a small entity. Fee: \$500.00
3. X Payment
 X Please charge Deposit Account 09-0447 the sum of \$500.00. A duplicate of this notice is attached.

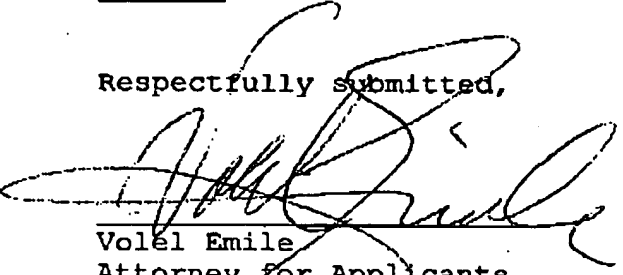
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The Commissioner is hereby authorized to charge any additional fee, which may be required or credit any overpayment to Deposit Account No. 09-0447.

Respectfully submitted,



Volel Emile
Attorney for Applicants
Registration No. 89,969
(512) 306-7969

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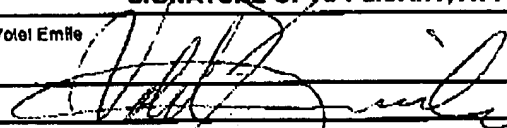
Page 2 of 2

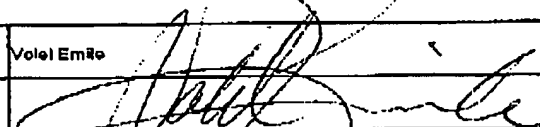
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/099,777
	Filing Date	03/14/2002
	First Named Inventor	Brown et al.
	Art Unit	2171
	Examiner Name	Cam Linh T. Nguyen
Total Number of Pages in This Submission	Attorney Docket Number	AUS920010866US1

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm or Individual name	Volei Emile	
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Date	06/14/2005	

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Signature		Date 06/14/2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal to a final rejection dated March 08, 2005 of claims 1 - 20 of Application Serial Number 10/099,777 filed on March 14, 2002. This Appeal Brief is submitted pursuant to a Notice of Appeal filed on June 02, 2005 in accordance with 37 C.F.R. 1.192.

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Appl. No. 10/099,777
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BRIEF FOR APPLICANTS - APPELLANTS

(1)

Real Party in Interest

The real party in interest is International Business Machines Corporation (IBM), the assignee.

(2)

Related Appeals and Interferences

There are no other appeals or interferences known to appellants, appellants' representative or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3)

Status of Claims

Claims 1 - 20 have been finally rejected. This appeal involves all the rejected claims.

(4)

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A Response to the first Office Action, in which the independent claims (Claims 1, 6, 11 and 16) were amended, was filed on December 13, 2004. The Amendment was entered; however, the Examiner did not find Applicants' arguments to be persuasive and issued a Final Office Action on March 8, 2005.

(5)

Summary of the Invention

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Some operating systems (OSs) provide a "mount" operation that makes all file systems appear as a single tree, while others maintain a multiplicity of file systems. To mount a file system is to make the file system available for use at a specified location, a mount point (see page 2, lines 3 - 7).

Most computer systems, especially those running Microsoft OSs, generally mount all file systems on startup. However, Unix-based computer systems typically do not do so. They only mount certain file systems on startup. The file systems that are mounted on startup are the ones that contain files that are critical for the OS to function properly. The other file systems are mounted only when needed (page 2, lines 15 - 23).

One particular time one of the other file systems is mounted is just before the file system is exported. To export a file system is to make the file system available for NFS clients to mount on their own file systems. When exporting a file system, the mount point as well as the name of the storage device containing the file system must be provided. If the file system is mounted, all the needed information is known; hence, the reason why file systems are mounted before they are exported (see page 2, line 24 to page 3, line 2).

As mentioned before, most Unix-based servers mount some file systems only when they are needed. If a mounted non-critical OS file system has not been used within a pre-defined amount of time, it will be unmounted. This allows for other file systems to be mounted when and if needed. Mounting file systems can be a relatively time-consuming

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and CPU-intensive endeavor. Thus, mounting file systems only for export purposes may be a great waste of time and energy, especially if the file systems are subsequently unmounted without ever having been used (see page 3, lines 3 - 15).

The present invention obviates the need to mount a file system for export purposes only (see page 14, lines 20 - 22). In accordance with the teachings of the invention, each mount point in a file system has an associated extended attribute file (see page 14, lines 22 - 24 and page 15, lines 18 - 20). The extended attribute file contains all information needed to export the file systems that are to be mounted at that mount point (see page 15, lines 7 - 12). Thus, when a file system is mounted, as are, for example, all OS critical file systems, each extended attribute file associated with a mount point of the mounted file system is consulted to obtain all information needed to export any file that is to be mounted at that point. Once the information is obtained, the file systems may be exported (see page 15, lines 21 - 25 and page 16, lines 9 - 12)). This way, the file systems themselves need not be mounted in order to obtain the needed information (see independent Claims 1, 6, 11 and 16 in the Appendix).

(6)

Issues

Whether claims 1 - 20 were properly rejected under 102(a) as being anticipated by Vahalia et al.

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(7)

Grouping of Claims

The rejected claims stand or fall together.

(8)

Argument

In considering a Section 102 rejection, all the elements of the claimed invention must be disclosed in a single item of prior art in the form literally defined in the claim. *Jamesbury Corp. v. Litton Indus. Products*, 756 F.2d 1556, 225 USPQ 253 (Fed. Cir. 1985); *Atlas Powder Co. v. Dupont*, 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984); *American Hospital Supply v. Travenol Labs.*, 745 F.2d 1, 223 USPQ 577 (Fed. Cir. 1984). Russell-Falla et al., the reference used to reject the independent claims, does not disclose all the elements of the claims.

Vahalia et al. purport to teach a method of: (1) providing NFS clients with read/write access to read from and write into file systems; and (2) performing failure recovery of a failed server.

In the method of providing NFS clients with read/write access to read from and write into file systems, each file system is assigned to a particular server in a network of servers. Any server in the network may receive a file access request from any NFS client. If the file system that is to be accessed is assigned to the server that receives the request, that server will provide the access. But, if the file system that is to be accessed is not assigned to the server that receives the request, the

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server will forward the request to the server to which the file system is assigned.

This scheme obviates the need to provide coherency since only the server to which the file is assigned will allow changes to any file in the file system and will presumably permit only one client to make changes to the files in the file system at a time. Further, the scheme provides a certain level of load balancing as only a server to which a file system is assigned will process the request and presumably access requests will be sent to different file systems assigned to different servers in the network.

To determine to which one of the servers the file system is assigned, a file that contains file system/computer assignment information is consulted.

In the method of performing failure recovery of a failed server, one of the servers monitors the rest of the servers to detect failures. When a failure of a server is detected, the file systems that were assigned to that failed server are re-assigned to an operational server. Thus, requests can always be processed.

Since to export a file system is to make the file system available for NFS clients to mount (an NFS client can only mount a file system after the file system has been exported to it) and since the NFS clients disclosed by Vahalia et al. are requesting access to a file system (an NFS client cannot request access to a file system unless and until the file system is mounted on the client), *Vahalia et al. do not teach, show or suggest a method of exporting file systems* as stated by the examiner.

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Put differently, in order for an NFS client to request access to a file system, the file system must have already been mounted on the NFS client, which means that the file system must have already been exported to the NFS client. The disclosure of Vahalia et al. does not discuss file system exportation but delves straight into file systems access request grants.

The Examiner cited different passages in col. 13 of the disclosure of Vahalia et al. to support the rejection. However, the cited passages merely explain the disclosed method.

Firstly, it is well known that NFS files are indexed in a file directory that may be said to be organized as a tree, and each file system may be identified by a node in the tree. It is further well known that files are mounted to the "tree" at specific points called "mount points".

Vahalia et al. disclose in col. 13, lines 19 - 22 that each computer has (1) a directory of the file systems; (2) a database of the mount points for the file systems and (3) the computer to which each read-write file system is assigned.

Vahalia et al. further disclose in col. 13, line 40 to col. 14, line 15 that item 3 above allows a computer which receives a request to access a file system from an NFS client to check to see whether the file system is assigned to it or to another computer (see specifically col. 13, lines 22 - 26). If the file system is assigned to another computer, then the computer that receives the request may forward the request to the other computer. If the file system is assigned to the computer that receives the

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request, then it needs to know whether the file system is remote or not. As it is defined in the reference, a remote file system is a file system that has to be mounted on another file system (see specifically col. 13, lines 52 - 55 and col. 17, lines 15 - 32). To determine whether the file system is remote, the name (i.e., pathname) of the file that is to be accessed in the file system is parsed. If a mount point is reached as indicated by the list of mount points in the database in (2), then it is remote. If the file system to be accessed is remote, then a request to mount it at the proper mount point will be issued to the computer that has the file system to which it (the file system that is to be accessed) is to be mounted. If the file system is not remote, then before granting the request the computer that receives the request will make sure that the file system to be accessed was exported to the NFS client that is issued the file access request (after all, if the file system was not exported to the client requesting access then the request must be in error since that client should not even know of the file system).

Thus, in column 13, which was extensively cited by the Examiner as support for the rejection, Vahalia et al. merely explain a specific implementation of their method. However, nowhere in that implementation is there disclosed the claimed invention.

In other words, Vahalia et al. do not teach, show or suggest **consulting a file associated with a mount point of a mounted file system to retrieve information needed to export file systems** that are to be mounted at that mount point as claimed.

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Therefore, Applicants submit that the claims in the Application should be allowable. Hence, Applicants respectfully request allowance and passage to issue of the claims in the application.

Respectfully submitted,

By: 

Volel Emile
Attorney for Applicants
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Appendix

1. (Previously presented) A method of exporting file systems comprising the steps of:

consulting a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount point being the point at which the file systems are mounted on a computer system; and

exporting the file systems.

2. (Original) The method of Claim 1 wherein the needed information is names of devices within which the file systems are located.
3. (Original) The method of Claim 2 wherein the file systems are exported without first being mounted.
4. (Original) The method of Claim 3 wherein the file is an extended attribute file.
5. (Original) The method of Claim 4 wherein each mount point has an extended attribute file.
6. (Previously presented) A computer program product on a computer readable medium for exporting file systems comprising:

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code means for consulting a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount point being the point at which the file systems are mounted on a computer system; and

code means for exporting the file systems.

7. (Original) The computer program product of Claim 6 wherein the needed information is names of devices within which the file systems are located.
8. (Original) The computer program product of Claim 7 wherein the file systems are exported without first being mounted.
9. (Original) The computer program product of Claim 8 wherein the file is an extended attribute file.
10. (Original) The computer program product of Claim 9 wherein each mount point has an extended attribute file.
11. (Previously presented) An apparatus for exporting file systems comprising:

means for consulting a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount

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point being the point at which the file systems are mounted on a computer system; and

means for exporting the file systems.

12. (Original) The apparatus of Claim 11 wherein the needed information is names of devices within which the file systems are located.
13. (Original) The apparatus of Claim 12 wherein the file systems are exported without first being mounted.
14. (Original) The apparatus of Claim 13 wherein the file is an extended attribute file.
15. (Original) The apparatus of Claim 14 wherein each mount point has an extended attribute file.
16. (Previously presented) A computer system for exporting file systems comprising:

at least one storage device for storing code data; and

at least one processor for processing the code data to consult a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount point being the point at which the file systems are mounted on a the computer system, and to export the file systems.

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17. (Original) The computer system of Claim 16 wherein the needed information is names of devices within which the file systems are located.
18. (Original) The computer system of Claim 17 wherein the file systems are exported without first being mounted.
19. (Original) The computer system of Claim 16 wherein the file is an extended attribute file.
20. (Original) The computer system of Claim 19 wherein each mount point has an extended attribute file.

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Firstly, it is well known that NFS files are indexed in a file directory that may be said to be organized as a tree, and each file system may be identified by a node in the tree. It is further well known that files are mounted to the "tree" at specific points called "mount points".

Vahalia et al. disclose in col. 13, lines 19 - 22 that each computer has (1) a directory of the file systems; (2) a database of the mount points for the file systems and (3) the computer to which each read-write file system is assigned.

Vahalia et al. further disclose in col. 13, line 40 to col. 14, line 15 that item 3 above allows a computer which receives a request to access a file system from an NFS client to check to see whether the file system is assigned to it or to another computer (see specifically col. 13, lines 22 - 26). If the file system is assigned to another computer, then the computer that receives the request may forward the request to the other computer. If the file system is assigned to the computer that receives the

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request, then it needs to know whether the file system is remote or not. As it is defined in the reference, a remote file system is a file system that has to be mounted on another file system (see specifically col. 13, lines 52 - 55 and col. 17, lines 13 - 32). To determine whether the file system is remote, the name (i.e., pathname) of the file that is to be accessed in the file system is parsed. If a mount point is reached as indicated by the list of mount points in the database in (2), then it is remote. If the file system to be accessed is remote, then a request to mount it at the proper mount point will be issued to the computer that has the file system to which it (the file system that is to be accessed) is to be mounted. If the file system is not remote, then before granting the request the computer that receives the request will make sure that the file system to be accessed was exported to the NFS client that is issued the file access request (after all, if the file system was not exported to the client requesting access then the request must be in error since that client should not even know of the file system).

Thus, in column 13, which was extensively cited by the Examiner as support for the rejection, Vahalia et al. merely explain a specific implementation of their method. However, nowhere in that implementation is there disclosed the claimed invention.

In other words, Vahalia et al. do not teach, show or suggest **consulting a file associated with a mount point of a mounted file system to retrieve information needed to export file systems** that are to be mounted at that mount point as claimed.

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Therefore, Applicants submit that the claims in the Application should be allowable. Hence, Applicants respectfully request allowance and passage to issue of the claims in the application.

Respectfully submitted,

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Appendix

1. (Previously presented) A method of exporting file systems comprising the steps of:

consulting a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount point being the point at which the file systems are mounted on a computer system; and

exporting the file systems.
2. (Original) The method of Claim 1 wherein the needed information is names of devices within which the file systems are located.
3. (Original) The method of Claim 2 wherein the file systems are exported without first being mounted.
4. (Original) The method of Claim 3 wherein the file is an extended attribute file.
5. (Original) The method of Claim 4 wherein each mount point has an extended attribute file.
6. (Previously presented) A computer program product on a computer readable medium for exporting file systems comprising:

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code means for consulting a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount point being the point at which the file systems are mounted on a computer system; and

code means for exporting the file systems.

7. (Original) The computer program product of Claim 6 wherein the needed information is names of devices within which the file systems are located.
8. (Original) The computer program product of Claim 7 wherein the file systems are exported without first being mounted.
9. (Original) The computer program product of Claim 8 wherein the file is an extended attribute file.
10. (Original) The computer program product of Claim 9 wherein each mount point has an extended attribute file.
11. (Previously presented) An apparatus for exporting file systems comprising:

means for consulting a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount

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point being the point at which the file systems are mounted on a computer system; and

means for exporting the file systems.

12. (Original) The apparatus of Claim 11 wherein the needed information is names of devices within which the file systems are located.

13. (Original) The apparatus of Claim 12 wherein the file systems are exported without first being mounted.

14. (Original) The apparatus of Claim 13 wherein the file is an extended attribute file.

15. (Original) The apparatus of Claim 14 wherein each mount point has an extended attribute file.

16. (Previously presented) A computer system for exporting file systems comprising:

at least one storage device for storing code data; and

at least one processor for processing the code data to consult a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount point being the point at which the file systems are mounted on a the computer system, and to export the file systems.

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17. (Original) The computer system of Claim 16 wherein the needed information is names of devices within which the file systems are located.
18. (Original) The computer system of Claim 17 wherein the file systems are exported without first being mounted.
19. (Original) The computer system of Claim 16 wherein the file is an extended attribute file.
20. (Original) The computer system of Claim 19 wherein each mount point has an extended attribute file.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of: :
Brown et al. :
Serial No: 10/099,777 : Before the Examiner:
Filed: 03/14/2002 : Cam Linh T Nguyen
Title: APPARATUS AND METHOD : Group Art Unit: 2171
OF EXPORTING FILE SYSTEMS : Confirmation No.: 4836
WITHOUT FIRST MOUNTING THE :
FILE SYSTEMS :

APPELLANTS' BRIEF UNDER 37 C.F.R. 1.192

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal to a final rejection dated March 08, 2005 of claims 1 - 20 of Application Serial Number 10/099,777 filed on March 14, 2002. This Appeal Brief is submitted pursuant to a Notice of Appeal filed on June 02, 2005 in accordance with 37 C.F.R. 1.192.

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BRIEF FOR APPLICANTS - APPELLANTS

(1)

Real Party in Interest

The real party in interest is International Business Machines Corporation (IBM), the assignee.

(2)

Related Appeals and Interferences

There are no other appeals or interferences known to appellants, appellants' representative or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3)

Status of Claims

Claims 1 - 20 have been finally rejected. This appeal involves all the rejected claims.

(4)

Status of Amendment

A Response to the first Office Action, in which the independent claims (Claims 1, 6, 11 and 16) were amended, was filed on December 13, 2004. The Amendment was entered; however, the Examiner did not find Applicants' arguments to be persuasive and issued a Final Office Action on March 8, 2005.

(5)

Summary of the Invention

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Some operating systems (OSs) provide a "mount" operation that makes all file systems appear as a single tree, while others maintain a multiplicity of file systems. To mount a file system is to make the file system available for use at a specified location, a mount point (see page 2, lines 3 - 7).

Most computer systems, especially those running Microsoft OSs, generally mount all file systems on startup. However, Unix-based computer systems typically do not do so. They only mount certain file systems on startup. The file systems that are mounted on startup are the ones that contain files that are critical for the OS to function properly. The other file systems are mounted only when needed (page 2, lines 15 - 23).

One particular time one of the other file systems is mounted is just before the file system is exported. To export a file system is to make the file system available for NFS clients to mount on their own file systems. When exporting a file system, the mount point as well as the name of the storage device containing the file system must be provided. If the file system is mounted, all the needed information is known; hence, the reason why file systems are mounted before they are exported (see page 2, line 24 to page 3, line 2).

As mentioned before, most Unix-based servers mount some file systems only when they are needed. If a mounted non-critical OS file system has not been used within a pre-defined amount of time, it will be unmounted. This allows for other file systems to be mounted when and if needed. Mounting file systems can be a relatively time-consuming

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and CPU-intensive endeavor. Thus, mounting file systems only for export purposes may be a great waste of time and energy, especially if the file systems are subsequently unmounted without ever having been used (see page 3, lines 3 - 15).

The present invention obviates the need to mount a file system for export purposes only (see page 14, lines 20 - 22). In accordance with the teachings of the invention, each mount point in a file system has an associated extended attribute file (see page 14, lines 22 - 24 and page 15, lines 18 - 20). The extended attribute file contains all information needed to export the file systems that are to be mounted at that mount point (see page 15, lines 7 - 12). Thus, when a file system is mounted, as are, for example, all OS critical file systems, each extended attribute file associated with a mount point of the mounted file system is consulted to obtain all information needed to export any file that is to be mounted at that point. Once the information is obtained, the file systems may be exported (see page 15, lines 21 - 25 and page 16, lines 9 - 12)). This way, the file systems themselves need not be mounted in order to obtain the needed information (see independent Claims 1, 6, 11 and 16 in the Appendix).

(6)

Issues

Whether claims 1 - 20 were properly rejected under 102(a) as being anticipated by Vahalia et al.

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(7)

Grouping of Claims

The rejected claims stand or fall together.

(8)

Argument

In considering a Section 102 rejection, all the elements of the claimed invention must be disclosed in a single item of prior art in the form literally defined in the claim. *Jamesbury Corp. v. Litton Indus. Products*, 756 F.2d 1556, 225 USPQ 253 (Fed. Cir. 1985); *Atlas Powder Co. v. Dupont*, 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984); *American Hospital Supply v. Travenol Labs.*, 745 F.2d 1, 223 USPQ 577 (Fed. Cir. 1984). Russell-Falla et al., the reference used to reject the independent claims, does not disclose all the elements of the claims.

Vahalia et al. purport to teach a method of: (1) providing NFS clients with read/write access to read from and write into file systems; and (2) performing failure recovery of a failed server.

In the method of providing NFS clients with read/write access to read from and write into file systems, each file system is assigned to a particular server in a network of servers. Any server in the network may receive a file access request from any NFS client. If the file system that is to be accessed is assigned to the server that receives the request, that server will provide the access. But, if the file system that is to be accessed is not assigned to the server that receives the request, the

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server will forward the request to the server to which the file system is assigned.

This scheme obviates the need to provide coherency since only the server to which the file is assigned will allow changes to any file in the file system and will presumably permit only one client to make changes to the files in the file system at a time. Further, the scheme provides a certain level of load balancing as only a server to which a file system is assigned will process the request and presumably access requests will be sent to different file systems assigned to different servers in the network.

To determine to which one of the servers the file system is assigned, a file that contains file system/computer assignment information is consulted.

In the method of performing failure recovery of a failed server, one of the servers monitors the rest of the servers to detect failures. When a failure of a server is detected, the file systems that were assigned to that failed server are re-assigned to an operational server. Thus, requests can always be processed.

Since to export a file system is to make the file system available for NFS clients to mount (an NFS client can only mount a file system after the file system has been exported to it) and since the NFS clients disclosed by Vahalia et al. are requesting access to a file system (an NFS client cannot request access to a file system unless and until the file system is mounted on the client), **Vahalia et al. do not teach, show or suggest a method of exporting file systems** as stated by the examiner.

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Put differently, in order for an NFS client to request access to a file system, the file system must have already been mounted on the NFS client, which means that the file system must have already been exported to the NFS client. The disclosure of Vahalia et al. does not discuss file system exportation but delves straight into file systems access request grants.

The Examiner cited different passages in col. 13 of the disclosure of Vahalia et al. to support the rejection. However, the cited passages merely explain the disclosed method.

Firstly, it is well known that NFS files are indexed in a file directory that may be said to be organized as a tree, and each file system may be identified by a node in the tree. It is further well known that files are mounted to the "tree" at specific points called "mount points".

Vahalia et al. disclose in col. 13, lines 19 - 22 that each computer has (1) a directory of the file systems; (2) a database of the mount points for the file systems and (3) the computer to which each read-write file system is assigned.

Vahalia et al. further disclose in col. 13, line 40 to col. 14, line 15 that item 3 above allows a computer which receives a request to access a file system from an NFS client to check to see whether the file system is assigned to it or to another computer (see specifically col. 13, lines 22 - 26). If the file system is assigned to another computer, then the computer that receives the request may forward the request to the other computer. If the file system is assigned to the computer that receives the

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request, then it needs to know whether the file system is remote or not. As it is defined in the reference, a remote file system is a file system that has to be mounted on another file system (see specifically col. 13, lines 52 - 55 and col. 17, lines 15 - 32). To determine whether the file system is remote, the name (i.e., pathname) of the file that is to be accessed in the file system is parsed. If a mount point is reached as indicated by the list of mount points in the database in (2), then it is remote. If the file system to be accessed is remote, then a request to mount it at the proper mount point will be issued to the computer that has the file system to which it (the file system that is to be accessed) is to be mounted. If the file system is not remote, then before granting the request the computer that receives the request will make sure that the file system to be accessed was exported to the NFS client that is issued the file access request (after all, if the file system was not exported to the client requesting access then the request must be in error since that client should not even know of the file system).

Thus, in column 13, which was extensively cited by the Examiner as support for the rejection, Vahalia et al. merely explain a specific implementation of their method. However, nowhere in that implementation is there disclosed the claimed invention.


In other words, Vahalia et al. do not teach, show or suggest **consulting a file associated with a mount point of a mounted file system to retrieve information needed to export file systems** that are to be mounted at that mount point as claimed.

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Therefore, Applicants submit that the claims in the Application should be allowable. Hence, Applicants respectfully request allowance and passage to issue of the claims in the application.

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Appendix

1. (Previously presented) A method of exporting file systems comprising the steps of:

consulting a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount point being the point at which the file systems are mounted on a computer system; and

exporting the file systems.

2. (Original) The method of Claim 1 wherein the needed information is names of devices within which the file systems are located.
3. (Original) The method of Claim 2 wherein the file systems are exported without first being mounted.
4. (Original) The method of Claim 3 wherein the file is an extended attribute file.
5. (Original) The method of Claim 4 wherein each mount point has an extended attribute file.
6. (Previously presented) A computer program product on a computer readable medium for exporting file systems comprising:

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code means for consulting a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount point being the point at which the file systems are mounted on a computer system; and

code means for exporting the file systems.

7. (Original) The computer program product of Claim 6 wherein the needed information is names of devices within which the file systems are located.
8. (Original) The computer program product of Claim 7 wherein the file systems are exported without first being mounted.
9. (Original) The computer program product of Claim 8 wherein the file is an extended attribute file.
10. (Original) The computer program product of Claim 9 wherein each mount point has an extended attribute file.
11. (Previously presented) An apparatus for exporting file systems comprising:

means for consulting a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount

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point being the point at which the file systems are mounted on a computer system; and

means for exporting the file systems.

12. (Original) The apparatus of Claim 11 wherein the needed information is names of devices within which the file systems are located.
13. (Original) The apparatus of Claim 12 wherein the file systems are exported without first being mounted.
14. (Original) The apparatus of Claim 13 wherein the file is an extended attribute file.
15. (Original) The apparatus of Claim 14 wherein each mount point has an extended attribute file.
16. (Previously presented) A computer system for exporting file systems comprising:

at least one storage device for storing code data; and

at least one processor for processing the code data to consult a file associated with a mount point of a mounted file system to retrieve needed information to export the file systems, the mount point being the point at which the file systems are mounted on a the computer system, and to export the file systems.

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17. (Original) The computer system of Claim 16 wherein the needed information is names of devices within which the file systems are located.
18. (Original) The computer system of Claim 17 wherein the file systems are exported without first being mounted.
19. (Original) The computer system of Claim 16 wherein the file is an extended attribute file.
20. (Original) The computer system of Claim 19 wherein each mount point has an extended attribute file.

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